

CLAIMS:

1. An embossing apparatus, comprising a rotary embossing device having an axis of rotation, an axial direction, a radial direction, a circumferential direction, and an outer peripheral surface, said embossing device including:
at least a first embossing-component which extends at least radially outward from said peripheral surface and is configured to provide for a first embossing-pattern;
a rotary shaft member;
at least a first, base embossing-segment which is operatively joined to said rotary shaft member and is configured to carry a first base-section of said first embossing-component;
a first, supplemental embossing-segment which is operatively joined to be selectively positionable on said rotary shaft member, and is configured to carry a first supplemental-section of said first embossing-component;
a first, spacing-mechanism for adjusting a radial position of said first, supplemental embossing-segment;
a first, supplemental attachment-mechanism which secures the radial position of said first supplemental embossing-segment.
2. An embossing apparatus as recited in claim 1, wherein said embossing device further includes
a second, supplemental embossing-segment which is operatively joined to be selectively positionable on said rotary shaft member, and is configured to carry a second supplemental-section of said first embossing-component;
a second, spacing-mechanism for adjusting a radial position of said second, supplemental embossing-segment on said rotary shaft member; and
a second, supplemental attachment-mechanism which secures the radial position of said second, supplemental embossing-segment.
3. An embossing apparatus, comprising a rotary embossing device having an axis of rotation, an axial direction, a radial direction, a circumferential direction, and an outer peripheral surface, said embossing device including:
at least a first embossing-component which extends at least radially outward from said peripheral surface and is configured to provide for a first embossing-pattern;
a rotary shaft member;

at least a first, base embossing-segment which is operatively joined to said rotary shaft member and is configured to carry a first base-section of said first embossing-component;

a first, supplemental embossing-segment which is operatively joined to be selectively positionable on said rotary shaft member, and is configured to carry a first supplemental-section of said first embossing-component;

a first, spacing mechanism for adjusting a radial position of said first supplemental embossing-segment;

a first, supplemental attachment mechanism which secures the radial position of said first supplemental embossing-segment;

a second, supplemental embossing-segment which is operatively joined to be selectively positionable on said rotary shaft member, and is configured to carry a second supplemental-section of said first embossing-component;

a second, spacing mechanism for adjusting a radial position of said second supplemental embossing-segment;

a second, supplemental attachment mechanism which secures the radial position of said second supplemental embossing-segment;

at least a third supplemental embossing-segment which is operatively joined to said rotary shaft member and is configured to provide for a second embossing-pattern; and

a third spacing mechanism for adjusting a radial position of said third supplemental embossing-segment on said rotary shaft member.

4. An apparatus as recited in claim 1, further comprising a cooperating rotary anvil which is located operatively adjacent said rotary embossing device.

5. An apparatus as recited in claim 1, wherein said first spacing mechanism includes at least one separately provided shim member which is located between said rotary shaft member and said first supplemental embossing-segment.

6. An apparatus as recited in claim 1, wherein embossing-component has a back-and-forth configuration located along at least the base-section of said first embossing-component, the back-and-forth configuration having a traversing frequency which is at least a minimum of about 1 cycle arranged to occur with a 5 cm, circumferential length section of said first embossing-component.

7. An apparatus as recited in claim 6, wherein said back-and-forth configuration includes a lateral traversing distance which is at least a minimum of about 0.1 cm.

8. An apparatus as recited in claim 1, further comprising a cooperating rotary, patterned anvil which is located operatively adjacent said rotary embossing device; wherein said rotary anvil has an outer peripheral anvil surface; and said anvil surface includes an anvil pattern which cooperatively matches said embossing pattern.

9. An embossing process, comprising: rotating a rotary embossing device having an axis of rotation, an axial direction, a radial direction, a circumferential direction, an outer peripheral surface, and a first embossing-component which has been configured to extend radially outward from said peripheral surface to provide for a first embossing-pattern; wherein

said rotary embossing device has included

a rotary shaft member,

at least a first, base embossing-segment which is operatively joined to said rotary shaft member, and

a first, supplemental embossing-segment which is joined to said rotary shaft member and is selectively positionable on said rotary shaft member;

a radial position of said first, supplemental embossing-segment on said rotary shaft member has been adjusted with a first spacing mechanism; and

the radial position of said first, supplemental embossing-segment has been secured with a first, supplemental attachment-mechanism.

10. An embossing process as recited in claim 9, wherein said rotary embossing device has further included a second, supplemental embossing-segment which is joined to said rotary shaft member and is selectively positionable on said rotary shaft member;

a radial position of said second, supplemental embossing-segment on said rotary shaft member has been adjusted with a second spacing mechanism; and

the radial position of said second, supplemental embossing-segment has been secured with a second, supplemental attachment-mechanism.

11. An embossing process, comprising: rotating a rotary embossing device having an axis of rotation, an axial direction, a radial direction, a circumferential direction, an outer

peripheral surface, and a first embossing-component which has been configured to extend radially outward from said peripheral surface to provide for a first embossing-pattern; wherein

said rotary embossing device has included

- a rotary shaft member,

- at least a first, base embossing-segment which has been operatively joined to said rotary shaft member,

- a first, supplemental embossing-segment which has been joined to said rotary shaft member and has been selectively positioned on said rotary shaft member,

- a second, supplemental embossing-segment which has been joined to said rotary shaft member and has been selectively positioned on said rotary shaft member, and

- at least a third supplemental embossing-segment which has been operatively joined to said rotary shaft member;

a radial position of said first, supplemental embossing-segment on said rotary shaft member has been adjusted with a first segment-spacing mechanism;

the radial position of said first, supplemental embossing-segment has been secured with a first, supplemental attachment-mechanism;

a radial position of said second supplemental embossing-segment on said rotary shaft member has been adjusted with a second segment-spacing mechanism; and

a radial position of said third supplemental embossing-segment has been adjusted with a corresponding third segment-spacing mechanism.

12. An embossing process as recited in claim 11, wherein the radial position of said second, supplemental embossing-segment has been secured with a second, supplemental attachment-mechanism; and the radial position of said third, supplemental embossing-segment has been secured with a third, supplemental attachment-mechanism.

13. An embossing process as recited in claim 11, further including cooperatively rotating a rotary anvil which has been located operatively adjacent said rotary embossing device.

14. An embossing process as recited in claim 11, wherein said first spacing mechanism has included at least one separately provided shim member which has been

located between said rotary shaft member and said first supplemental embossing-segment.

15. An embossing process as recited in claim 11, wherein said first and second supplemental-sections of the first embossing-component are arranged to intersect and extend substantially continuously with respect to said base-section of the first embossing-component.

16. An embossing process as recited in claim 11, wherein said first and second supplemental-sections of the first embossing-component are arranged to intersect and extend non-continuously with respect to said base-section of the first embossing-component.

17. An embossing process as recited in claim 11, wherein said rotary shaft member includes a first support slot configured with a size and shape which operatively accommodates a placement of said first supplemental embossing-segment therein

18. An embossing process as recited in claim 17, wherein said rotary shaft member has included a second support slot configured with a size and shape which operatively accommodates the placement of said second supplemental embossing-segment therein.

19. An embossing process as recited in claim 18, wherein said rotary shaft member has included an operative support mechanism which is appropriately configured to hold and carry said third supplemental embossing-segment.

20. An embossing process as recited in claim 18, wherein said rotary shaft member has included a socket region that is appropriately sized and shaped to operatively accommodate the placement of said third supplemental embossing-segment into said socket region.